Appendix V
Confined Space Entry Program

1.0 Purpose

This procedure is intended to assist USACE Buffalo, NY. District personnel in establishing an orderly means of assessing work areas for the purpose of determining where confined spaces exist and the requirements for safe work by personnel working in and around these locations in compliance with EM 385-1-1 & OSHA 29 CFR 1910.146.

2.0 Scope

It is the intent of USACE Buffalo, NY. District to provide confined space Entrant, Attendant, Entry Supervisor and Rescue services to the facilities serviced by USACE Buffalo, NY. District

Due to the extreme consequences of failure to comply with this EM 385-1-1 & 29 CFR 1910.146, any violation of this procedure shall be considered a serious threat to the health and safety of involved employees. All employees, contractors and other personnel working under the auspices of USACE Buffalo, NY. District are required to comply with these procedures.

3.0 Definitions

"Attendant": An individual stationed outside one or more permit spaces who monitors the authorized entrants and who perform all attendant's duties assigned in the employer's permit space program.

"Authorized entrant": An employee who is authorized by the employer to enter a permit space.

"Competent Person ***":*** Any person who is capable of identifying existing or potential hazards in the workplace and who is authorized to take prompt corrective measures to correct such hazards.

"Confined Space": Any space that – (all 3 must exist to be classified as a "Confined Space"

1) Is large enough and so configured that an employee can bodily enter and perform assigned work;
2) Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.);
3) Is not designed for continuous employee occupancy.

"Emergency": Any occurrence (including any failure of hazard control or monitoring equipment) or event internal or external to the permit space that could endanger entrants.

“Engulfment”: The surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

“Entry permit”: The written or printed document that is provided by the employer to allow and control entry into a permit space. Entry permits are required to be posted outside the confined space during any work within the space. All entry permits will be maintained by the company for a period of not less than one year from the date the permit was issued.

“Entry supervisor”: The person (such as the employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this section.

The ranking onsite, trained employee with the authority to correct or eliminate hazards, will be considered the competent person in charge. All employees are to be competent in confined space procedures prior to entry into a confined area.

“Non-Permit Required Confined Spaces”: any enclosed space exhibiting the following requirements:

1) Is large enough that an employee may enter to perform work activities.
2) Has limited or restricted means for exit or entry.
3) Is not designed for continuous employee occupancy.

“Permit Required Confined Spaces”: any enclosed space requiring a permit system to prevent non-authorized entry and exhibiting all of the characteristics found in the Non-Permit Required Space:

1) Is large enough that an employee may enter to perform work activities.

2) Has limited or restricted means for exit or entry.

3) Is not designed for continuous employee occupancy, and one or more of the following characteristics:

4) Contains a material with the potential for engulfment of an entrant.

5) Has an internal configuration that could trap or asphyxiate an entrant such as inwardly converging walls or a floor that slopes downward.

6) Contains any other recognized serious hazard.

7) Contains or has a known potential to contain a hazardous atmosphere.

4.0 Training

Prior to entry of an employee into a permit required confined space, all personnel under the direct supervision of a USACE Buffalo, NY. District "Entry Supervisor" shall receive training in the proper procedures and skills required to competently perform work in and around confined spaces. This training shall include, but is not limited to, education in the specific OSHA standard 29 CFR 1910.146 and site specific training covering the confined spaces to be entered.

Individual companies working with or under contract with USACE Buffalo, NY. District, are responsible for ensuring that the appropriate training and certification of their respective employees has occurred.

USACE Buffalo, NY. District reserves the right to deny entry by anyone into a confined space under our District's supervisory control, if the requirements for employee training have not been met.

Additional Training Requirements

CPR & 1st Aid are required for personnel involved in confined space rescue services prior to establishment of the individual as a rescuer.

Training requirements will be maintained as detailed by federal regulation.

5.0 Entry Supervisor / Permit Authority

1) A trained, competent person shall evaluate confined spaces for known or potential hazards and designate specific equipment or procedures to be implemented to ensure employee safety relative to the predicted hazards.

For the purposes of this procedure, USACE Buffalo, NY. District will evaluate and enter all confined spaces as "permit required". A Confined Space Entry Permit and all safety precautions shall be implemented prior to entry into a permit space by any personnel.

2) The ranking, onsite, competent person or their trained designee will evaluate the confined space location to determine the specific potential hazards which may affect the health and safety of personnel working in and around the area.

3) USACE Buffalo, NY. District personnel will monitor work where the health or safety of contractors are involved The responsibility for the health and safety of personnel will remain with the Entry Supervisor.

4) USACE Buffalo, NY. District personnel will refuse to enter any confined space deemed hazardous, until adequate safety measures are taken to ensure the safety and health of their employees.

5) The host employer will maintain responsibility for implementing hazardous energy controls (Lockout/Tagout) as necessary.

6) The Entry Supervisor will complete a Confined Space Work Permit prior to entry of any employee into a confined space so as to ensure that all prescribed safety precautions are in place. The original permit or a copy must be kept onsite and immediately available to all onsite employees during all on site work operations. The permit will be turned into the supervisor at the end of the work shift. If work is to continue into the next shift, or work crew, the site shall be re-evaluated by the Entry Supervisor taking control of the site. A new entry permit will be completed for each new work day or shift.

7) No employee shall enter the confined area without direct permission of the ranking onsite Entry Supervisor or their designated attendant.
8) No unauthorized person may alter the requirements of the confined space entry permit without approval of the designated Entry Supervisor, having issued and signed the permit.

DUTIES OF ENTRY SUPERVISORS

Entry Supervisors have the ultimate responsibility for the safety of those individuals entering a permit space.

It is their duty to insure that the space is “safe” for entry; that all precautions and safe entry procedures are followed; that only trained individuals are assigned the duties of attendant and entrant; and, that the entrant and attendant are familiar with the space to be entered and the hazards associated with that particular space.

In addition, the Entry Supervisor MUST:

1) Be knowledgeable of all potential or recognizable hazards that may exist within the space to be entered, the signs and symptoms of exposure to these potential hazards, and the consequences of such exposure.

2) Verify that: all the required testing has been conducted; all the required safety, communications, personal protective equipment, and, if necessary, retrieval *I* rescue equipment is operable and in place; and, all entry requirements have been completed and recorded on the entry permit before endorsing the entry permit and allowing the entry to proceed.

3) Terminates the entry and cancels the entry permit when:

a) the operations listed on the permit are completed;

b) conditions arise, either inside or outside of the permit space, that are not consistent with the original entry conditions or safe entry procedures.

4) Ensures that acceptable entry conditions are maintained and that the entry operations remain consistent with the entry permit.

5) Advise unauthorized individuals to leave the entry area and, if necessary, safely escort the individuals form the area.

5.1 Attendant / Entrant Responsibilities

1) Prior to entry into any potential confined space a competent employee will evaluate the work site to determine if a confined space is present. Evaluation and testing will be performed in compliance with this procedure and OSHA regulations. Findings will be immediately documented on the confined space entry permit.

2) Only employees trained in confined space safe entry procedures may enter designated permit required confined spaces.

3) Control of work in confined spaces is under the immediate direction and control of the employee whose signature appears on the confined space entry permit, the entry supervisor and the entry attendant. The entrant shall check in with the entry attendant prior to entry and immediately upon leaving the confined space.

4) The entry supervisor and entry attendant will ensure that necessary testing and evaluation of the confined area is complete and logged prior to entry.

5) Immediately upon entry or exit of the entrant from the confined space, the entry attendant and supervisor shall log each entrant into and out of the confined space. Logging of movement will be by log entry using the date of entry, entrants full name, time of entry and time of exit. This log entry will be initialed by the entrant at the time of entry and at the time of exit.

5.1.1 DUTIES OF ENTRANTS - Designated Entrants MUST:

1) Be knowledgeable of all potential or recognizable hazards that may exist within the space to be entered, the signs and symptoms of exposure to these potential hazards, and the consequences of such exposure.

2) Insure that the space has been protected and isolated using the appropriate lockouts-tagouts and other isolation methods.

3) Properly use the required air monitoring equipment, ventilation equipment, communications equipment, personal protective equipment, lighting, space opening railings and markings, rescue equipment, and any other equipment that may be needed to safely enter or exit the space including self-contained breathing apparatus (SCBA).

4) Communicate regularly with the attendant so that the attendant can continually monitor the physical status of the entrant and to allow the attendant to alert the entrant of any changes of the entry conditions that may require exiting the space.

5) Alert the attendant whenever a prohibited condition is detected or when the entrant recognizes warning signs or symptoms of potentially dangerous situations.

6) Immediately EXIT the space:

a) when the entrant recognizes warning signs or symptoms of potentially dangerous situations;

b) whenever a prohibited condition is detected;

c) when the attendant or entry supervisor orders that the permit space be exited.

5.1.2 DUTIES OF ATTENDANTS

Attendants are required to be present at all permit space entries and must remain outside of the permit space.

Attendants MUST:

1) Be knowledgeable of all potential or recognizable hazards that may exist within the space to be entered, the signs and symptoms of exposure to these potential hazards, and the consequences of such exposure.

2) Be aware of any behavioral effects of exposure to the potential hazards.

3) Maintain a count and the identity of entrants.

4) Communicate regularly with the entrant(s) so that the physical status of the entrant can be continually monitored and to allow the entrant to alert the attendant of any changes of the entry conditions that may require exiting the space.

5) Monitor the activities inside and outside the permit space to determine whether the entry conditions or other factors have changed and immediately order the entrant(s) to exit the permit space when:

a) a prohibited condition is detected;

b) behavioral effects of a hazard exposure are detected in the entrant(s);

c) a situation outside the permit space may endanger the entrant(s); or,

d) when the attendant cannot perform the required duties.

6) Perform ONLY non-entry rescues in accordance with this procedure if the entrant(s) MAY need assistance exiting or escaping the permit space.

7) Summon rescue and other emergency assistance when the attendant determines that the entrant(s) MAY need help to exit or escape the permit space and non-entry rescues cannot be performed.

The attendant MUST inform responding rescues and emergency personnel of the hazards associated with the permit space and the details of and reasoning for requested rescue or emergency services.

8) If unauthorized individuals approach the permit space while the entry is in progress, the attendant MUST:

a) Warn the individuals that an entry is underway and advise them to leave the immediate area;

b) Keep motor vehicles away from the opening to the permit space in accordance with the safe entry procedures listed in this document;

c) If the individuals enter the permit space, immediately order the exit of the entrant(s) from the permit space, inform the entry supervisor of the situation, contact the host employer if necessary, and then safely escort the unauthorized individuals from the area.

9) Must not perform any other duties that may interfere with the primary duties of monitoring and protecting the entrant(s).

6.0 Atmospheric Testing Requirements

Atmospheric Testing Procedure

Atmospheric testing is required for two distinct purposes:

1) Evaluation of the hazards of the confined space

2) Verification that acceptable entry conditions for entry into that space exist.

Evaluation testing

The atmosphere of a confined space will be analyzed using equipment of sufficient sensitivity and specificity to identify and evaluate any hazardous atmospheres that may exist or arise, so that appropriate permit entry procedure can be developed and acceptable entry conditions stipulated for that space.

Evaluation and interpretation of these data, and development of the entry procedure, should be reviewed by a technically qualified person, familiar with the hazards of the confined space and the appropriate means by which to address potential hazards.

Verification testing

Through constant or periodic monitoring, the atmosphere of a permit space which may contain a hazardous atmosphere shall be tested for changes in the levels of contaminant to determine if the range of acceptable entry

conditions is being maintained. Results of testing (i.e., actual concentration, etc.) will be recorded on the permit in the space provided for air quality analysis.

Duration of testing

Measurement of values for each atmospheric parameter will be made for at least the minimum response time of the test instrument specified by the manufacturer.

Testing stratified atmospheres

When monitoring for entries involving a descent into atmospheres that may be stratified, the atmosphere shall be tested a distance of approximately 4 feet (1.22 m) in the direction of travel and to each side. If a sampling probe is used, the entrant's rate of progress should be slowed to accommodate the sampling speed and detector response.

All confined spaces shall be tested to determine the level of hazardous gases prior to entry.

Air Quality tests must include but are not limited to:

1. Oxygen Deficiency

Oxygen levels outside the range of 19.5 % to 23.5 % will be considered hazardous. Hazardous entry may take place with Self Contained Breathing Apparatus or an Airline system with an approved emergency escape system.

2. Combustible Gas Levels

Combustible gas levels of 10 % of the lower flammable limit or greater are to be classified as highly hazardous and shall not be entered until made safe by reducing the level to below the 10 % limit.

3. Toxic *I* Other Gas Levels

All confined spaces shall be evaluated to determine which specific respiratory hazards may exist and the atmosphere tested for these levels prior to entry. Where the contaminant level exceeds the NIOSH permissible exposure limit, ventilation may be utilized to drop the levels to a safe range or respiratory protection must be utilized by entrants.

All tests are to be performed in the order listed above. Results are to be documented on the Confined Space Entry Permit prior to entry.

7.0 Physical Hazards

Prior to entry into any confined space, the Entry Supervisor shall ensure that the confined space has been evaluated for physical hazards. These hazards may include, but are not limited, to the following:

a) Inwardly converging walls or slopes
b) Engulfment hazards
c) Fall hazards
d) Loss of sight of entrance
e) Agitators, gears, combines or similar equipment which may pinch or cause an entrant to become trapped between or in moving machinery.
f) Electrical hazards
g) Liquid hazards
h) Fire hazards
i) Other potential hazards
j) Chemical hazards

8.0 Energy Control Program (Lock-Out / Tag-Out)

The confined space shall be evaluated for potential energy sources. All potential hazardous energy sources shall be "locked or tagged out of service" and their potential energy dissipated or blocked, in compliance with the requirements of OSHA 29 CFR 1910.147 prior to work in the confined space. The host employer shall be responsible for implementing the lockout of these energy sources.

All doors, hatchways, plates or other primary means of entry and exit from the confined space, as well as all required ventilation portals, will be locked and tagged in the open position prior to entry

9.0 Entry Permit and Safety Checklist

1. The Entry Supervisor shall complete the "Confined Space Permit" prior to entry of any personnel into the confined space and post the permit outside the confined space entrance. All sections of the permit will be completed.

2. All LRB confined spaces will be classified as :

a) Permit Required Confined Space's

3. Hazard determination will be based on site evaluation, atmospheric test results and immediate or potential hazards.

4. The confined space entry permit or a copy of the permit will remain on site and be immediately available for employee review at all times during the scope of the work.

5. A copy of the confined space entry permit shall remain on file for a period of one year with the Safety Office.

10.0 Access and Entry Control

The authority to permit entry into or to remove employees from a confined space is under the direct control of the Entry Attendant.

The Entry Attendant is required to perform the following tasks in a permit required confined space entry.

The Entry Attendant must:
a. Be a competent person.
b. Remain outside of the hazard zone.
c. Remain in constant contact with all employees working in the confined space.
d. Have ready means of summoning emergency aid.
e. Assist employees in operation of personal protective equipment.
f. Understand the warning signs of potential hazards and a pre-AP proved means of notifying the workers to evacuate the confined space.
g. Monitor the entry and exit of all personnel in the confined space and record entry and exit times.
h. Ensure that no unauthorized / untrained personnel enter the confined space. Maintain a chronological log of all entrants entering the space and the time of their exit.

11.0 Safe Entry Procedures

The Entry permit must be completed for each permit space entry, signed by the entry supervisor authorizing the entry, and posted in the immediate vicinity of the permit space.

The following steps are to be documented in the appropriate space on the following entry permit.

1) Identifying potential hazards, isolate and protect the space from the potential release of energy or materials into the space, to the extent possible, by: lockout or Tagout of all energy sources; disconnecting any mechanical devices, pipes, ducts, etc.; or, blanking / blinding.

If isolation or complete isolation is not possible, personal protective equipment will be supplied to and used by the entrant to protect the entrant from the identified hazards. Such equipment may be listed in Appendix “A” and authorized for use in the specified permit spaces only.

The specific isolation and protection procedures, including lockouts / tagouts, employed are to be detailed on the entry permit.

2) When the point of entry to the permit space is at ground or floor level, the opening is to be guarded by a "standard" railing, temporary covers, or other such devices to prevent accidental falls into the space and to protect the entrant(s) from foreign objects entering the space.

If any other manhole covers are removed for additional ventilation or any other reason, a guard and marking shall also be placed around it.

3) The permit space openings shall be marked so as to be easily visible from a distance and identifiable as an open confined space in which an entry is in progress. When the permit space is located within a building, the marking is also necessary. The sign shall read, Danger

" Confined Space, Enter by Permit Only "

4) The operation of any motor vehicle or other internal combustion engine within 50 feet upwind or an appropriate distance downwind so as to present a hazardous atmosphere accumulation or to the side of a "marked" confined space opening is prohibited. This prohibition includes vehicles operated by the entrant and those operated by others. If vehicles are to be parked within the above distances, the ignition keys are to be removed from the vehicles and, either, kept on the entrant's person throughout the entry or placed in a locked "lock box" with the entrant having the only key on his person.

5) Natural or Forced air ventilation and air monitoring of any permit space is to continue throughout the entire entry procedure and work period. The air monitoring equipment may accompany the entrant and may be in the entrant's possession throughout the permit space entry procedure.

6) The entrants, attendants, or entry supervisor will notify the any employer when necessary or, if required, prior to entry and immediately upon exit from the permit space. When operations necessitate repeated entry and exit, notification is needed only before the initial entry and final exit, unless leaving the area is required.

7) Communication devices, if necessary, are to accompany the entrant into the permit space and are to be used, when necessary, to communicate with the attendant outside the permit space. Communication between the entrant and the attendant must be often enough so that the attendant is able to reliably determine the physical status of the entrant.

In the event of an emergency incident, the Attendant must be able to summon assistance without leaving the immediate area of the confined space.

8) Retrieval Systems

Vertical Permit Spaces: During vertical permit space entries *(5)* five foot in depth or greater, a rescue retrieval system will be made available to assist in rescue of the entrant's, All entrants shall wear a full-body safety harness attached to a lifeline. The lifeline will be attached to a fixed point outside the confined space. The

retrieval system will consist of a retrieval assembly equipped with a mechanical lifting advantage system with a built in fall protection device.

Horizontal Permit Spaces: The entrant shall wear a full-body harness and tag line attached to a fixed point outside the confined space. The retrieval line and winch will be manned continuously by the attendant outside the permit space during the entire entry procedure.

Fall Protection: Entries into confined spaces requiring use of a fixed ladder of 20 feet or more in height, require the use of a fall protection device, including a Class 3 harness and lifeline attached to a friction braking or similar device designed to initiate braking of falls of more than 6 inches vertical.

12. Operating Procedures

12.1 Air Quality Requirements

Have constant powered ventilation equipment capable of maintaining a 19.5 percent to 23.5 percent oxygen content, combustible gas levels below 10 % of the lower flammable limit and hazardous gas levels below the recommended MOSH threshold limit values for each hazardous gas. Levels will be determined by atmospheric gas monitoring equipment.

- and -

All confined spaces will be monitored to ensure safe air quality including, but not limited to, adequate oxygen supply, combustible gas levels below 10 % of the lower flammable limit and toxic gas levels below the accepted NIOSH exposure limits for each toxic gas detected

12.2 Personal Protective Equipment Requirements

A. Respiratory Protection - Permit Confined Spaces

Respiratory protection for all immediately dangerous to life or health (IDLH) atmospheres or any unknown quantity of hazardous gases will include:

1. A positive pressure demand self contained breathing air system approved for immediately dangerous to life or health atmospheres.

-OR-
2. A positive pressure demand airline respiratory protection system with escape bottle approved for immediately dangerous to life or health atmospheres.

Respiratory protection for all atmospheres where known levels of hazardous gases are present and where levels are below the IDLH shall include NIOSH approved respiratory protection designed to provide adequate protection against the specific hazards which the entrant may be exposed.

12.3 Personal Protective Equipment - Dermal

A. Permit required confined spaces require dermal protection as follows:

1. Work locations which pose an exposure to hazardous materials in concentrations which may exceed the NIOSH exposure limits for that substance will require the use of Tyvek, Saranex or similar chemically protective coveralls. Chemically resistant gloves, face and foot protection shall be worn when potential exposure to specific body zones may occur.
2. Prior to entry into any confined space the entry supervisor and entry attendant shall require each entrant to wear a retrieval harness and lifeline during all work operations unless the safety equipment increases the overall risks of entry or does not contribute a rescue function.

The retrieval system will include a mechanical or manual winch system to aid in retrieval of the entrant. The system may be utilized by the Entry Attendant or the responding rescue personnel as required.

12.4 Retrieval Systems

A rescue / retrieval system is required for operations in LRB confined space areas unless conditions require fall protection apparatus or if entry into the space is by a vertical opening with a drop from opening to the first landing ***of(5)*** or more feet.

13. Hazardous Materials Exposure

If an injured entrant is exposed to a substance for which a Material Safety Data Sheet (MSDS) or other similar written information is required to be kept at the workplace, the MSDS or written information will be made immediately available to the medical personnel or facility treating the exposed entrant.

14. Special Requirements

14.1 First Aid Services

All persons in the rescue entry team will be certified in basic first-aid and cardiopulmonary resuscitation (CPR).

14.2 Hot Work Permits

“Hot Work” permits will be issued for all work involving welding or cutting with open flame. The permit, or a copy of the permit, will be issued to the confined space entry permit authority prior to the start of the work day and will remain on site during the cutting or welding procedure. The permit will remain with the confined space entry permit as part of the permanent record. No confined space entrant will be allowed to perform this type of work in a confined area unless the permit authority authorizes it.

14.3 Contractors

No contractor shall be allowed to enter a confined space without proper training and direct authorization.

14.4 Electrical Equipment
All electrical equipment shall meet the requirements of Article 500 of the National Electrical Code (NFPA-70).

14.5 Warning Signs and Symbols
All permit required confined spaces which could be inadvertently entered, shall have a sign identifying the location as a confined space area permanently posted at the entrance.

14.6 Portable Fire Extinguishers
A minimum of one portable fire extinguisher will be placed outside the confined space during all work operations. The extinguisher will remain in the safe zone and will be manned by the Entry Attendant. An additional fire extinguisher may be placed in the confined space when conditions warrant its presence

15. Rescue and Emergency Services

USACE Buffalo, NY. District and it's subcontractors will provide emergency rescue services. All rescue personnel working under the direct supervision of LRB will meet the minimum training requirements for rescue personnel as detailed in OSHA 29 CFR 1910. 146.

USACE Buffalo, NY. District will attempt to rescue its entrant(s) using the retrieval system employed during permit space entries. They will also enter the permit space wearing all the specified personal protection equipment (PPE), including a self-contained breathing apparatus (SCBA) unit if necessary and only when additional assistance has arrived. Secondary, and / or external rescue services will be provided by the fire department in that district which may also be notified prior to the entry. A copy of this program, will be provided to the fire department upon request. Updated copies will be provided when, or if, they become available. Each entrant going into a permit space will wear a full body harness with a retrieval line attached to a fixed point outside the confined space. Retrieval systems will also be equipped with a fall protection device to prevent the entrant from falling into the permit space. Each worker that will be assigned the duties of attendant or entry supervisor will also be trained in the duties of an entrant. These individuals will also be provided with the equipment and expertise needed to perform their required duties and to successfully rescue the entrant of a permit space to the extent of their capabilities. Training will also include specific procedures in reporting a rescue attempt, summoning medical assistance and or assistance from the Fire Department, and basic first-aid and cardiopulmonary resuscitation (CPR).

Annually, all employees trained as a rescue entrant, attendant, and / or entry supervisor will perform simulated rescue attempts from actual permit spaces.

16. Permit Required Confined Space Rescue Procedures

1) Immediately upon noticing any behavioral effects of a hazardous exposure or that the entrant may need assistance exiting the permit space, the attendant will attempt to communicate with the entrant to determine the entrant's mental and physical well-being. Whenever there is any doubt, the attendant will order the evacuation of the permit space.

2) Should the entrant not be able to exit the permit space without assistance, the attendant will then operate the retrieval system and attempt to extricate the entrant from the permit space without entering the space.

3) If the attendant is unable to extricate the entrant from the permit space, the attendant will immediately summon help from the rescue service for assistance. The attendant will not enter the space. The rescue service will immediately evaluate the confined space prior to performing entry for the purpose of a rescue attempt. As necessary, the on-site rescue service will summon external response agencies for assistance. In the event of any emergency involving injury or illness within a confined space, the local emergency medical department will be summoned immediately to assist in the rescue.

4) Should the responding medical personnel recommend that the victim receive further medical attention, the victim will be transported to the nearest hospital for treatment or a hospital specified under their medical plan agreement.

5) If the cause of the entrant's incapacitation was caused by an exposure to a hazardous substance, a copy of the Material Safety Data Sheet (MSDS) for that substance will accompany the victim to the hospital. As an alternative, the MSDS may be hand delivered to the hospital or transmitted directly to the emergency room by facsimile (fax) machine if available.

After each rescue, the permit space from which the rescue was performed will be re-evaluated by USACE Buffalo, NY. District personnel to identify the cause of the rescue, the source of any exposure, and any additional hazards, and complete an ENG 3394/Accident Report. The USACE Buffalo, NY. District's Confined Space Entry Program will also be examined to ascertain its effectiveness and to incorporate any needed changes. After each rescue, the permit space from which the rescue was performed will be evaluated to incorporate any needed changes.

17.0 SUMMARY

It is the intent of the Buffalo District to perform all Confined Space Entry work as efficiently and safely as possible.

At the conclusion of the entry, all personnel involved will discuss any questions or problems that may have been encountered or created within the space during entry for future reference. Suggestions for program improvement will be submitted to the Safety Office for review and resolution.

GLEN R. DeWILLIE
LTC, EN
Commanding

CONFINED SPACE ENTRY PROGRAM - Hazard Evaluation / Attachment-2

Confined Spaces	Hazard Codes	Lockouts/Tagouts	PPE Codes	Special Entry Procedures
Mt. Morris Dam				
Conduits	2, 6, 7, 8, 9	Hydraulic Gates	B, K,	Air Monitoring
Man-Holes	3, 9,	High Voltage Cut-ups	B, D, F, J, K,	Drain & Pump Dry
Elevator Service Pit	3, 9, 11	Elevator	B	n/a
Gauge Wells	6, 9	n/a	B, K	Air Monitoring
Black Rock Lock				
Filling Culverts	6, 7, 9, 11	Hydraulic Starters	B, F, G, I, K	n/a
Gate Cyl. Basements	3, 9 , 11	Cylinders	B, K	n/a
Mid-Gate Cyl. Basements	3, 9		B, K	n/a
DB's				
Collison Crash Bulk-Heads Out	2, 6, 9,	n/a	F, G, J, K	Air Mon. & Pump
DB's				
Flat Scows Out	2, 6, 9	n/a	F, G, J, K	Air Mon. & Pump
Tug's				
Fuel Tanks	2, 6, 7, 8, 9	Pumps	A, B, E, G, I, K	Air Monitoring
Ballast Tanks	2, 6, 9	Pumps	B, F, G, I, K	Air Monitoring
Chain Locker	2, 9	n/a	B, F, I, K	Air Monitoring
Lazarette Storage	2, 9	n/a	B, F, I, K	Air Monitoring
Building-1				
Elevator Service Pit	3, 9, 11	Elevator	B	n/a

NOTE: Any other Permit-Required Confined Spaces not listed above will be evaluated by the Supervisor prior to entry.

HAZARD CODES

1 asbestos
2 oxygen deficiency
3 electrical shock *I* electrocution
4 thermal burns
5 excessive heat (heat stress)
6 engulfment / flooding
7 toxic atmosphere
8 explosive *I* combustible atmosphere
9 slips/falls
10 chemical burns
11 mechanical hazards (machinery)

PERSONAL PROTECTIVE EQUIPMENT (PPE) CODES

A respirator w *I* HEPA filters
B head protection (bump caps / hard hats)
C thermally insulated gloves
D electrically insulated gloves or blankets
E Chemical splash goggles with anti-for lenses
F safety glasses w *I* impact resistant lenses
G waterproof footwear
H non-conductive tools (when voltage is encountered)
I rainwear or Tyvek disposal garments
J coated hand protection (chemicals, etc.)
K full-body safety harness
* L self-contained breathing apparatus (SCBA)
* Only if conditions warrant its use.

The permit space is to be ventilated for a minimum of five (5) minutes prior to any air monitoring of the space. Special consideration must be given for ventilation units, either powered by internal combustion engines or used where other internal combustion engines

(including vehicular traffic) are in use. To insure that exhaust fumes are not drawn into the air intake and forced into the permit space, the air intake duct is to be raised and supported *6* feet above ground level. A gasoline powered blower unit must be located *25* feet downwind of manhole.

USACE Buffalo NY. District
Confined Space Program
ID - Worksheet / Attachment-3

Space Name & Location	# 1 - Can you bodily enter?	# 2 - Is there limited access or egress?	# 3 - Is it designed for human occupancy?	Is this a Confined Space? (1&2 must be a yes - #3 a no)	Atmospheric Hazards?	Engulfment Hazards?	Mechanical or Electrical Hazards?	Internal Cofiguration Hazards?	Physical Hazards?	Other Hazards?	IS THIS A PERMIT or NON-PERMIT SPACE?
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											